

B. N. V. S. 

Entomologists' NEWSLETTER

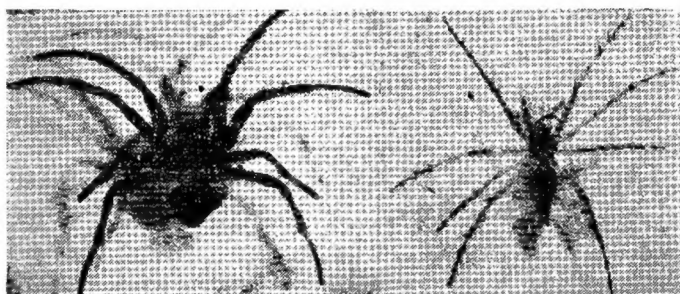
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DRIED AND UNSTRETCHED SPIDERS



STRETCHED SPIDERS

(Please see the article on page 56)

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Appreciations

...I am very much interested in any topics of entomology in India. I should be very much pleased if you will kindly send me this newsletter continuously as issued.....Please put my name in your regular mailing list.

Keizo Yasumatsu
Entomological Laboratory,
Kyushu University,
Fukuoka, Japan

...Your greatly esteemed Entomologists' Newsletter is really a need of the time. It is nicely published and gives a good wealth of information.

C. S. Gupta
Head, Zoology Department,
College of Science
Gurukul Kangri
Hardwar (U.P.)

...I am indeed very happy to see your new endeavour. Entomologists' Newsletter.... It was indeed required very badly to fill in the gap between the fundamental, applied and operation research with the field worker, which I am sure has been fulfilled by this publication....

A. S. Srivastava
Head, Division of Entomology,
U.P. Institute of Agricultural Sciences
Kanpur-2

Sterility Principle for Insect Control or Eradication

A symposium on 'Sterility principle for insect control or eradication' organised by I.A.E.A./F.A.O. was held at Athens (Greece) from September 14-18, 1970. It was attended by 88 delegates representing 39 countries and 5 national and international organisations. In all, 49 papers were presented. Various aspects covered during the symposium were :—

(i) Studies on radiation sterilization of insects ; (ii) Sterility principle for the control of (a) fruit flies, and (b) insects affecting man and animals; (iii) Chemosterilization and reproductive physiology ; (iv) Basic biology and artificial rearing of insects ; (v) Sterility principle and insects attacking food and fibre crops ; (vi) Genetic mechanism for insect control and (vii) Insect radiobiology.

Some useful points which emerged from discussion during the symposium are briefly summarised below.

(i) It has been reported that radiation sterilization reduced mating competitiveness of sterilized males, therefore, some workers have advocated the use of semisterility, i.e., partial sterilization. This has so far been experimented with mosquitoes. Another important factor which needs to be considered in this context is the age and stage of development and conditions of irradiation. When fruit flies were irradiated as 1-2 day old adults, mating competitiveness of the males was better as compared to irradiation at pupal stage 1-2 days prior to emergence. It was also reported that when irradiation was done in the presence of nitrogen, mating vigour of *Rhodnius prolixus* Stal was much better when compared with those irradiated in air.

(ii) As already advocated by Pradhan and other workers, the effectiveness of the sterile male release technique can be greatly increased, in case, this is used as part of an integrated control programme in which the population of the pest could be brought down by the judicious use of insecticides. Use of sex attractants and 'lures' can also enhance the effectiveness of this technique.

(iii) So far chemosterilants, harmless to men and animals have not been discovered and in spite of the fact that resistance to some chemosterilants has been reported (e.g., mites) it was suggested that they could still be used, when applied with a bait in a suitable container to avoid mammalian hazard. Efforts should, however, be continued to develop chemosterilants which are non-toxic to animals.

(iv) Several types of genetic manipulations, including cytoplasmic incompatibility, have been suggested and tried against mosquitoes and some other pests of public health importance. It is possible that such studies may also be feasible against some of the pests of agricultural importance.

(v) Another important factor though not discussed at length during the symposium appears to be the prospects of using *sterile females* during the pest control programme. It is well known that the level of parasitisation or predation is dependent on the density of the pest population and thus an important factor in suppressing the population can be introduced by the release of sterile females to deposit eggs which might be helpful for increasing the level of parasitisation, whereas, predators could survive on sterile adult females. This useful effect will be in addition to the possible benefit which would result from the competitive mating of sterile females with normal males. This is a very efficient integration of Biological Control & Sterility Principle.

The proceedings of the symposium have since been published by the I.A.E.A. (STI/PUB/265, I.A.E.A., Vienna, 1971)

G. R. Sethi

Setting and Preservation of Spiders for Identification

The following procedure has been found to give better results :

Treat the dried specimens in a petridish with 10% cold KOH solution for 1 to 6 hours depending upon the size of the specimens with a view to bringing it to as much natural shape as possible stretching its legs and palpi. Pour lukewarm water on the specimen with a dropper to give a thorough wash. Further, with a dropper put glacial acetic acid on the specimen taking care that the specimen does get fully drenched but does not float in the petridish. Leave the specimen in this condition for 1/2 to 2 hours till it becomes stiff. Wash off the acetic acid with water and preserve the specimen in 90% ethyl alcohol (photograph on the cover page).

The freshly killed specimens can also be treated in the above manner except that treatment with KOH solution is omitted.

Spiders thus treated will facilitate the taxonomist to easily look into the required characters for quick identification.

Baldev Parshad

An easy Photographic Method for insect wing venation studies and drawing

Insect wings are to be mounted on glass slide by Dr. Menon's method (*Indian J. Ent.*, **25** (2) : 174-176 & *ibid*, **27** (2) : 227-250) and a direct photo print is obtained using the mounted wing as negative. This will show all veins white and so the pigmentation. This dried print can be used for studies of complex wing venation.

For drawings all white lines are black inked with water proof in the above print. Once the ink has dried up, the print is bleached in usual photo bleaching process-weak potassium ferricyanide aqueous solution. While bleaching, the inked surface is kept on upper side of the tray & is neither touched nor rubbed. In this bleached, dried, and washed print all (photo) black portions will go away & only the black inked portions will remain. Print so obtained is dried in sunlight keeping the inked surface on top and the inked diagram is ready for studies/reproduction.

With this method wings of larger insects are easily reproduced, particularly Orthoptera, Odonata & Neuroptera. For scaled wing reproduction, the wing is to be descaled by Dr. Menon's method first.

R.K. Bhatnagar & R.K. Bhanotar

***Dichochrosis punctiferalis* (Guenee) as a Pest of Mango**

Dichochrosis punctiferalis which is a common pest of castor has been observed infesting mango panicles both healthy and malformed. This pest is found throughout the year causing damage by cutting and boring the branches and main axes of the panicles. It has also been noticed at Kishangarh (Delhi) infesting the ripe mango fruits.

M. L. Srivastava

Rice Hispa Epidemic in Andhra Pradesh

The Rice hispa, *Dicladispa armigera* (Olivier) made its appearance as a pest in some paddy growing areas of coastal Andhra Pradesh in the second paddy crop ('Rabi' 1969-70). The pest assumed a serious and epidemic form in the rice growing areas of coastal Andhra during the 'Kharif' and 'Rabi' seasons of 1970-71 and the current 'Kharif' season. The pest damaged both the nurseries and the transplanted crop. The infestation was so severe that infested nurseries presented blasted appearance in many areas. Several thousands of acres of transplanted crop were also infested by the pest, affecting the yield. Experiments conducted by the Andhra Pradesh Agricultural University revealed that spraying the crop with either Sumithion 0.075% or Malathion 0.1% could not only control the adults but also kill the grubs and pupae which are in the leaf tissue.

P. V. Rangarao*

Rice Hispa Epidemic on Paddy Crop in Uttar Pradesh

The rice hispa *Dicladispa armigera* (Olivier) was reported in an epidemic form on paddy crop in the first fortnight of July 1971 from Gonda, Bahraich, Sitapur and Basti districts of Uttar Pradesh. The survey of the affected areas carried out in July 1971 indicated the pest to be widespread only in Gonda and Bahraich districts where respectively about 24,000 acres and 5,000 acres of paddy crop were affected; in Sitapur and Basti districts its incidence was much restricted in area and was of low intensity. Initially, the attack was on early and medium varieties of paddy but a fresh survey carried out during the last week of August 1971 has revealed that the pest has now migrated to late-planted varieties as well. Due to the intensive plant protection measures adopted, mostly with insecticides like 10% BHC dust and Endrin spraying, and partly due to continuous heavy rains the intensity of the pest attack had considerably reduced by the end of August 1971. Control measures are continuing to clear the remaining pockets of the pest.

Though rice hispa has been known to be a minor pest of paddy crop occurring sporadically in small areas in Uttar Pradesh, its occurrence in an epidemic form during 1971 has been the first instance of its kind.

P. L. Chaturvedi**

* Professor and Head, Department of Entomology A. P. Agricultural University Rajendranagar, Hyderabad (A.P.)

**Entomologist, U.P. Institute of Agricultural Sciences, Kanpur.

Role of Vitamins in the Artificial Diet of Mustard Aphid

Studies were made on requirements for water soluble vitamins and ascorbic acid of mustard aphid, *Lipaphis pseudobrassicae* (Davis) by means of growth experiments using synthetic diets from which individual vitamins were omitted. It was found that without inositol and ascorbic acid, the growth was significantly retarded. Essentiality of inositol is a very unique finding in insect nutrition. It was, further, noticed that when folic acid and pantothenic acid and nicotinic acid were omitted from the diet, the growth and survival was markedly improved. Probably, these vitamins might be having some deleterious effect on the feeding of this insect.

J. C. Pant & N. C. Pant

Appointments/transfer

Dr. M.G. Ramdas Menon Senior Systematic Entomologist (*ad-hoc*) joined as regular Senior Systematic Entomologist with effect from 20.4.71.

Shri Yogendra Mahto, Senior Research Assistant (*ad-hoc*) joined as regular Senior Research Assistant with effect from 21.5.1971.

Shri A.K. Garg, Research Assistant at Katrain Substation of I.A.R.I. was transferred to Division of Entomology I.A.R.I., New Delhi-12 and joined on 12.7.71.

Recent Publications

Microbial control of Insects and Mites edited by H.D. Burges and N.W. Hussey (1971) Price £11.50 Academic Press London and New York.

Ecology of Insect Vector Population by R. C. Muirhead-Thomson (1968) Price £ 2.50 Academic Press London & New York.

Centre for Overseas Pest Research

Four units of the overseas Development Administration primarily engaged in the entomological fields, namely the Anti-Locust Research Centre, the Tropical Pesticides Research Unit, the Tropical Pesticides Research Headquarters and Information Unit and the Termite Research Unit, have been amalgamated and the new unit thus formed would be called Centre for Overseas Pest Research (C.O.P.R.).*

This new unit would help governments of overseas territories and the developing countries in particular, to solve pest problems in the fields of agriculture and public health and would include investigation and research and work on the development and application of modern techniques of pest control. The Centre would also provide scientific information, advice and training.

Workshop on Crop Protection

The first all India Workshop on Crop Protection would be held at Lucknow (U.P.) from November 8 to 11, 1971. The co-sponsors of the workshop are Plant Protection Directorate (Govt. of India) and Indian Council of Agricultural Research, New Delhi and is being organised by the Department of Agriculture, U.P., Lucknow. For further details kindly contact the convener, Dr. I. N. Tandon, Deputy Director, Plant Protection, U.P. Lucknow.

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